CHAPTER 8

AERONAUTICAL EQUIPMENT SERVICE RECORD (AESR)

Aircraft maintenance activities are also tasked with the responsibility of maintaining aeronautical equipment service record (AESR). Currently, organizational and intermediate level maintenance activities maintain AESRs in paper format as well as electronic format found in the Naval Aviation Logistics Command Management Information System (NALCOMIS).

AERONAUTICAL EQUIPMENT SERVICE RECORD (AESR) DESCRIPTION

LEARNING OBJECTIVE: Define the purpose of the Aeronautical Equipment Service Record (AESR).

The Aeronautical Equipment Service Record (AESR) is the log used to maintain records on aeronautical equipment that are an integral part of the aircraft. The AESR is a loose-leaf log that is contained within a separate cover. The log can be inserted in the aircraft logbook binder, or the log may stand alone.

The AESR is maintained in much the same manner as the aircraft logbook. Many of the records used in the aircraft logbook are also used in the AESR. In this chapter, we will discuss records common to the aircraft logbook and AESR, but we will focus more on records unique to the AESR.

ORIGIN

LEARNING OBJECTIVE: Identify the activity that originates AESRs.

The AESR is initiated by the activity that originally accepted the equipment for the Navy, and the AESR is subsequently maintained by the activity that has custody of the equipment. When equipment is installed as part of the aircraft, the AESR is maintained concurrently with the aircraft logbook, and the record becomes a part of the logbook.

Q1. What log is used to maintain records on the aeronautical equipment that is an integral part of an aircraft?

Q2. What activity initiates the AESR?

APPLICATION

LEARNING OBJECTIVE: Identify equipment that requires an AESR.

An AESR is required for each of the specific equipments listed below:

- Aircraft power plants (engines)
- Auxiliary power unit (APU)
- Airborne gun pods
- Low-level escape system
- Propeller assembly
- In-flight refueling store/package
- AN/ALQ-99 pod
- Aeronautical Expeditionary Airfield M-11, M-22, M-23, V-1, V-7, and L series lighting systems
- Gas Turbine Power Plant (7LM 1500 PB-104)
- Engine test cell/stand
- MK-105 magnetic minesweeping gear
- Support equipment gas turbine engines (GTEs)

NOTE: Each aircraft has specific AESR equipment requirements. The periodic maintenance information card (PMIC) deck for the specific type, model, and series of equipment contains AESR equipment requirements. In case of loss, damage, or destruction of an AESR, follow the same reconstruction procedures as those used for an aircraft logbook.

MAINTAINING THE AESR

LEARNING OBJECTIVE: Describe the disposition procedures for AESR data that has no designated place in the AESR.

The AESR is maintained similarly to the aircraft logbook. Since the AESR is in loose-leaf form, the full

identification data and serial number for each piece of equipment is inserted on each page. This ensures that each page can be identified if the page is removed for entries or other reasons.

Signatures required in the AESR are the same as those for the aircraft logbook. Signatures must be handwritten in black ink. Rubber stamps are not authorized. Signatures are not required when new records are initiated or when old records are consolidated

Pages or forms, other than those described in the following paragraphs, are not inserted, stapled, or attached to the AESR. Additional data, for which there is no designated place in the logbook, and a copy of the most recent engine setup or test record are placed in the manila envelope in the back of the AESR. Superseded forms are closed out with the statement "No further entries this page," and a new form is initiated. The superseded form remains in the AESR.

- Q3. What information should be entered on each page of every form in the AESR?
- Q4. Data for which there is no designated place in the AESR should be placed in what location?

FORMS

LEARNING OBJECTIVE: Describe the forms used in the Aeronautical Equipment Service Record.

A brief description of each record or form used in the AESR is contained in the following paragraphs. The discussion concentrates on forms peculiar to the AESR. For additional information and documentation procedures, refer to the *Naval Aviation Maintenance Program*, OPNAVINST 4790.2.

Aeronautical Equipment Service Record (Cover) (OPNAV 4790/29)

The cover page of the AESR is shown in figure 8-1. The information on the front cover is entered, as shown

AERONAUTICAL EQUIPMENT SERVICE RECORD

NOMENCLATU	RE OF EQ	UIPMENT				REP Interval	LACEMENT Due
ТҮРЕ			MODEL			SER NO. (Ht	<i>ıb</i> if prop.)
			INSTALLE	D O	I _		
MODEI	L	BUNO/SEF	RIAL NO.	I	DATE	BY (A	Activity)
	CU	RRENT ENGI	NE OR PRO	PELI	LER POSI	TION NO.	

DEPARTMENT OF THE NAVY. CHIEF OF NAVAL OPERATIONS

OPNAV 4790/29 (Rev. 1-84)

S/N 0107-LP-047-9145

NOTE: DO NOT ROLL OR BEND. When removed from the log book for separate shipment, this record must be secured with a suitable fastener (e.g., a metal file fastener) at the points indicated. DO NOT USE STAPLES.

AZf0801

Figure 8-1.—Aeronautical Equipment Service Record (AESR) front cover.

in the figure, by the activity that initiates the record. Subsequent entries are made by activities that maintain custody of the equipment.

The *operating interval* is the authorized time between overhauls for the particular equipment. The data required for the replacement interval is obtained by review of the Replacement Interval Data block on each Assembly Service Record (ASR), Module Service Record (MSR), and Scheduled Removal Component (SRC) card. The lowest time recorded is written as the replacement interval on the AESR. The replacement due is computed by adding the lowest interval time to the engine time. Entries are made in pencil to allow for component changes at repair or rework activities.

The block titled "Current Engine or Propeller Position No." is used to indicate the engine or propeller position number (1, 2, 3, or 4) as installed on the aircraft. This position indicator aids in the placement of associated accessory and other supplemental records in the correct equipment record.

Equipment Operating Record (OPNAV 4790/31A)

The Equipment Operating Record (fig. 8-2) is intended for use with all aeronautical equipment that requires the monthly compilation of significant operating data and is unique to the AESR. Reporting custodians ensure that operating or monitoring system data is entered on this form at a monthly interval and upon transfer of the equipment.

The Equipment Operating Record provides columns for the logging of operating hours or monitoring system data, as applicable. Operating hours are obtained from record type (RECTYP) 7B of the Naval Aircraft Flight Record. Uncaptioned columns are provided for monitoring system data and are labeled as required; for example, starts, rounds fired, low cycle fatigue (LCF), and meter reading. If equipment is monitored by time since new (TSN) or time since overhaul (TSO), the first column under monitoring system data is labeled TSN or TSO, as appropriate. The cumulative column under operating hours will then show TSN or TSO hours. The Remarks column is for the logging of additional information, as appropriate.

Q5. What type of data is recorded on the Equipment Operating Record?

Q6. Entries should be made on the Equipment Operating Record at least monthly. On what other occasion should an entry be made on this record?

Inspection Record (OPNAV 4790/22A)

The Inspection Record, shown in figure 8-3, is one of the forms that is common to both the aircraft logbook and AESR. The maintenance of the form is the same for the aircraft logbook and AESR. The heading blocks on each form are filled in to identify the type of inspection and the equipment name, model, and serial number.

A major engine inspection, phase inspection, special inspection, and conditional inspection (except fluid sampling, engine wash, or servicing) all require an AESR entry by the activity that performs the inspection.

Phase and major engine inspections are logged on the same Inspection Record page.

Special and conditional inspections are logged on separate Inspection Record pages as follows:

- Equipment that has an AESR and requires a nondestructive inspection (NDI) or disassembly and reassembly is logged on an Inspection Record page titled "SPECIAL."
- A conditional inspection is an unscheduled inspection required as a result of an overlimit condition or as a result of a circumstance or event that creates an administrative requirement for an inspection, such as a hot start or overtemp. A conditional inspection is logged on an Inspection Record page titled "CONDITIONAL."

Acceptance and transfer inspections on uninstalled equipment are NOT logged on Inspection Records.

During first-degree repair, the intermediate maintenance activity (IMA) screens the Inspection Record and, during rework, the depot-level maintenance activity screens the Inspection Record. The old Inspection Record pages for scheduled maintenance are removed, and a new record that contains the data necessary for determining when the next scheduled inspection is due is initiated. Conditional Inspection pages are screened for items of historical or maintenance value and transcribed to a new page. A minimum of 2 years of data is maintained at all times on the Conditional Inspection page.

	GE-E311526	8		REMARKS	ЕОМ	ЕОМ	ЕОМ	ЕОМ	EOM	ЕОМ	EOM	EOM	EOM	ЕОМ	EOM			PERMANENT RECORD AZf0802
Q	2. T/M/S F404-GE-400	7.		ACTIVITY	VFA-000			H										
EQUIPMENT OPERATING RECORD Entry required at end of month and upon transfer				(2) ACCUM														EOR).
NG R		IDS)	d.	(1) THIS MONTH														Figure 8-2.—Equipment Operating Record (EOR).
RATI		STARTS, COUNTS, ROUNDS)		(2) ACCUM														Onerating
OPE			ပ	(1) THIS MONTH														uioment (
MENT coursed		A (e.g., TSR,		(2) ACCUM														8-2.—Ea
QUIP Fatty		6. MONITORING SYSTEM DATA (e.g.,	b.	(I) THIS MONTH														Figure
—		ONITORING S	EOT	(2) ACCUM		2940.7	3036.5	3093.7	3151.3	3223.5	3318.5	3433.9	3467.4	3589.4	3637.9			
	OFAN	6. MG	a. E	(1) THIS MONTH			95.8	57.2	57.6	72.2	95.0	115.4	33.5	122.0	48.5			7-047-9157
	TURBOFAN	TING HRS	þ.	ACCUM	2247.5	2255.6	2284.3	2356.8	2391.3	2440.0	2489.7	2566.9	2612.4	2671.1	2748.6			S/N 0107-LI
	ENGINE	5. OPERATING HRS	THIS	MONTH	49.8	8.1	28.7	72.5	34.5	48.7	49.7	77.2	45.5	58.7	77.5			(REV. 1-84)
	1. EQUIPMENT	4.	MONTH AND	YEAK	980930	981031	981130	981231	990131	999228	990331	990430	990531	990630	990731			OPNAV 4790/31A (REV. 1-84) S/N 0107-LF-047-9157

Figure 8-2.—Equipment Operating Record (EOR).

Phase (Periodical or Conditional)	nal)	SNI	SPECTION	INSPECTION RECORD	0	
1. AIRCRAFT MODEL OR EQUIPMENT NAME TURBOFAN ENGINE	NT NAME	2. TYPE / MODEL / SERIES F404-GE-40OA	/ SERIES 0OA		3. BUNO OR SERIAL NUMBER 310049	AL NUMBER
4. TYPE OR DESCRIPTION OF INSPECTION	5. REFERENCE		6. DATE COMMENCED	7. DATE COMPLETED	8. ACTIVITY	9. SIGNATURE
PHASE A/E1475.4	OPNAVINST 4790.2	1790.2	971204	971205	VX-5	LT. M. D. CHRISTMAS
PHASE B/E1580.2	OPNAVINST 4790.2	1790.2	980404	980404	VX-5	LT. M. D. CHRISTMAS-
OPNAV 4790/22A (REV. 1-84) S/N	S/N 0107-LF-047-9110	2.E	Figure 8-3.—Inspection Becord.	ction Record.		AZJA0005

Figure 8-3.—Inspection Record.

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	C NUMBER	9. SIGNATURE	AFCM I. M. GOOD									PERMANENT RECORD AZJA0006
	3. BUNO OR SERIAL NUMBER 310018	8 · ACTIVITY	AIMD NAS JAX									
REPAIR / REWORK RECORD	EL / SERIES 400A	7. REFERENCE	NAVAIR 02B-105ALB-4									
REPA	ME 2. TYPE / MODEL / SERIES TF34-GE-400A	6. DESCRIPTION OF WORK	REPAIRED CRACKED COMP. CASE, 2ND DEG. REPAIR									S/N 0107-LF-047-9118
	1. AIRCRAFT MODEL / EQUIPMENT NAME TURBOFAN ENGINE	5. DATE COMPLETED	980517									
	1. AIRCRAFT MOI TURBOFAN	4. DATE INDUCTED	980512									OPNAV 4790/23A (REV. 1-84)

Figure 8-4.—Repair/Rework Record.

- Q7. Overtemp, hot start, acceptance, and transfer inspections are all examples of (a) what type inspections and, (b) should be logged on what page of the AESR?
- Q8. Acceptance and transfer inspections are not required to be recorded in the AESR for equipment in what status?
- Q9. What minimum number of years of data should be maintained on the Conditional Inspection page?

Repair/Rework Record (OPNAV 4790/23A)

The Repair/Rework Record (fig. 8-4) is also common to the aircraft logbook and AESR. This record is a permanent part of the AESR. The Repair/Rework Record contains a complete record of all repair, reconditioning, SDLM, conversion, modification, and modernization that an intermediate- or depot-level maintenance activity performs on the equipment. In cases where an item requires an AESR, the AESR must accompany the equipment through the maintenance action required and must be updated by the activity that accomplishes the action.

Q10. An auxiliary power unit (APU) is removed from an aircraft and sent to an AIMD for repair. What should be the disposition of the AESR?

Technical Directives Form (OPNAV 4790/24A)

The Technical Directives form (fig. 8-5) is used to record technical directives in the AESR. This form is the same one that is used in the aircraft logbook. Separate pages are used for each type of directive, and all applicable directives are recorded. Lists 02 and 04 for engines may be available for your use; however, these lists are NOT an authorized part of the engine AESR.

Changes and bulletins that concern equipment, other than engines, present no special record-keeping problems because the numerical quantity of these directives is relatively small. Power plant changes and power plant bulletins, however, are issued in greater numbers. Therefore, power plant changes and power plant bulletins require careful screening to ensure that the AESR reflects the actual configuration of the equipment.

Definite rules and procedures are required to ensure that the AESR contains a record of applicable directives and, at the same time, to eliminate unnecessary record keeping. For uniformity throughout the system, apply the following procedures for all equipment:

- Record all changes and bulletins, including revisions, that direct a material change or modification of the particular equipment in this section of the AESR.
- Log all technical directives in numerical sequence, except on pages titled "Revisions." Revisions are logged in the order that they are received. All activities must account for applicable bulletins or production equivalents by number.
 - Use only applicable Status codes.
- Ensure that technical directives that affect a component that has an SRC card, Equipment History Record (EHR) card, ASR, or MSR are documented in the applicable section of that card or record as well as the AESR. In this instance, enter the TD identification on the technical directive (TD) page, and enter a notation to refer to the applicable SRC, EHR, ASR, or MSR in the Title/Remarks column.

Record other entries in the same manner as those in the TD section of the aircraft logbook.

Q11. Technical directives that affect an EHR, ASR, IMSR, or SRC card item should be recorded on the applicable EHR, ASR, MSR, or SRC card. On what other record should an entry be made?

Miscellneous/History (OPNAV 4790/25A)

When used in the AESR, the Miscellaneous/ History record (fig. 8-6) is where pertinent information is recorded for which no other place in the record has been provided. For example, special test data, abnormal characteristics of equipment, serious damage, significant repair, authorization for extension of operating intervals, and Naval Oil Analysis Program entries are made on this form. When equipment is exposed to large quantities of salt water, fire-extinguishing agents, or other corrosive material, an entry is made on the Miscellaneous/History record to include a description of the decontamination and approximate time between exposure and completion of decontamination. All entries on this record require an authorized signature, date, and name of the activity.

Intermediate- and depot-level maintenance activities screen the Miscellaneous/History record before discarding it and initiating a new record. When the specific information is of permanent value, the information is transcribed onto the new form and retained in the AESR. A minimum of 2 years of data is

FT34-GE-400A STATUS REMOVAL AND INSTALLATION OF ENGINE JUNCTION BOXES U INC OF FUEL PUMP	BY (ACITY VS-41	4. BUNO UK SEKIAL NUMBEK 310018 COMPLIANCE 9.	KIAL NUMBEK
STATUS INC	BY (ACITY VS-41 VS-41	4PLIANCE	
INC		_	9.
INC		b. DATE	SIGNATURE
INC		960111	LT.B.A. SEAMAN
		970614	AVCM W. T. DOOR

Figure 8-5.—Technical Directives.

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MISCELLANEOUS / HISTORY

AIRCRAFT MODEL C	AIRCRAFT MODEL OR EQUIPMENT NAME TURBOFAN ENGINE F4	E F404-GE-400A	BUNO OR SERIAL NO. 310042
DATE		REMARKS	
971209	THIS DATE, EQUIPMENT OPERATING HOURS WERE VERIFIED TO BE CORRECT. ENGINE SERIAL	URS WERE VERIFIED TO B	E CORRECT. ENGINE SERIAL
	NUMBER 310042 TRANSFERRED THIS DAT	SFERRED THIS DATE TO AIMD JACKSONVILLE DUE TO HIGH OIL	E DUE TO HIGH OIL
	CONSUMPTION. JCN A9B-054-132, ON DO	OCUMENT NUMBER V2139	A9B-054-132, ON DOCUMENT NUMBER V21390-8054-G431, STATUS STAR 24-74.
		AVCM I. M. CATCHALL	CHALL
		VFA-37	
OPNAV FORM 4790/25A (8-69)	S/N 0107-770-3505	Figure 8-6.—Miscellaneous/History record.	AZJA0010

maintained at all times on the Miscellaneous/History record.

To aid the IMA and depot activities in determining repair or rework requirements of equipment following rejection, the activity that rejects the equipment MUST completely document the reason for and nature of the rejection on the Miscellaneous/History record. For example, an entry such as "overtemp" is not enough. Information must be given as to the degree of overtemp, the length of overtemp, and the circumstances under which the overtemp occurred, such as at start, in flight, during shutdown, or during ground runup. Corrective measures that were taken must also be listed.

Some incidents recorded on the Miscellaneous/ History record require specific statements to accurately describe the circumstances that surround the incident. These specific statements include, but are not limited to, the following:

Change in authorized inspection interval. If there is a change in the authorized inspection interval, the following entry is required: "Effective (date) was placed on (specified interval) in accordance with (authority); next inspection due (date or hours)."

- A change in the inspection induction date or hourly sequence requires that the following entry be made: "Effective (date) inspection induction date (or hours) was rescheduled from (old date or hours) to (new date or hours) as authorized by (reference)."
- Equipment Receipt. Activities that receive equipment with the Equipment Operating Record will make the following entry: "This date, The Equipment Operating Record accumulated operating hours were verified to be correct."
- Activities that transfer equipment must annotate the record with the date, reason for transfer, activity transferred to, job control number (JCN), shipping document number, and if applicable, Status and STAR (strikes, transfers, acquisitions, or removals) codes.

You should refer to the latest edition of OPNAVINST 4790.2 for other specific documentation requirements when making entries on this record.

Q12. In what record should Naval Oil Analysis Program (NOAP) entries be logged in the AESR?

Preservation/Depreservation Record (OPNAV 4790/136A)

The Preservation/Depreservation Record (fig. 8-7) in the AESR contains a record of preservation, represervation, and depreservation. When used in the AESR, the Preservation/Depreservation Record is maintained like the Preservation/Depreservation Record in the aircraft logbook. If the equipment (engine propellers, ejection seats, or APUs) is installed in the aircraft and the aircraft is preserved but the preservation requirement is not applied to the specific equipment, then no preservation entry is made to the equipment AESR.

Q13 Your activity initiates a preservation action on an aircraft. An entry should be made in the aircraft logbook's PreservationlDepreservation Record. No preservation was performed on installed engines. What entry, if any, should be made on the Preservation/Depreservation Record in the AESR?

Installed Explosive Device Record (OPNAV 4790/26A)

The Installed Explosive Device Record contains a record of all explosive devices installed. This record is generated through the Survival Equipment Asset Tracking System/Increased Capabilities (SEATS/ICAP) program. SEATS/ICAPS is a management information system for use at O-level, I-level, and D-level aviation maintenance activities and provides a standardized system for management of Survival Equipment and cartridge-actuated devices (CADs)/aircrew escape propulsion systems (AEPS).

		NO	ıity)										AZJA0011
	1AL NUMBER 341039	DEPRESERVATION	b. BY (Activity)										
	3. BUNO OR SERIAL NUMBER 341039	6. DEPRE	a. DATE										
CORD		5. REPRESERVE	a. DATE DUE	208086									
PRESERVATION / DEPRESERVATION RECORD	2. TYPE / MODEL / SERIES F400A		d. REFERENCE	NAVAIR 15-01-500									S/N 0107-LF-047-9682
SERVATION / DEPI	NGINE	PRESERVATION	c. TYPE PRESERVATION	TEVEL "I"									
PRES	1. AIRCRAFT MODEL OR EQUIPMENT NAME TURBOFAN ENGINE		b. BY (Activity)	VFA-37									-84)
	1. AIRCRAFT MODEL	4.	a. DATE	980603									OPNAV 4790/136A (1-84)

Figure 8-7.—Preservation/Depreservation Record.

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Figure 8-8 is an example of an AESR Installed Explosive Device Record for an ejection seat. The Installed Explosive Device Record in the AESR is maintained similarly to the Installed Explosive Device Record in the aircraft logbook.

Inventory Record (OPNAV 4790/27A)

The Inventory Record, (fig. 8-9) is common to both the aircraft logbook and the AESR. The Inventory Record is used to maintain a current inventory of all equipment or components that require an SRC, EHR, ASR, or MSR. Sound maintenance practices and flight safety considerations dictate those items, other than mandatory, that should be recorded on this form.

NOTE: Make sure that components, assemblies, or modules properly associated with equipment that requires an AESR are recorded in this section and NOT with airframe components in the aircraft logbook.

At the time of repair by the IMA or rework by the depot activity, all old Inventory Records are removed and new forms inserted in the AESR. All pertinent data for those items that have been installed by the equipment custodian during the previous service period and that are not scheduled for removal during repair or rework are transcribed to the new form(s) to maintain proper maintenance continuity. SRCs, EHRs, ASRs, or MSRs installed during repair or rework are also listed on this new form.

Assembly Service Record (ASR) (OPNAV 4790/106A)

The latest edition of *Aeronautical Time Cycle Management Program*, NAVAIRINST 4790.3, establishes the policy and responsibilities for the planned removal/replacement of selective assemblies

JOBOL	OK Page: 01			ed on: 27 August	: 1997			OPNAVII	IST 4790.	2E
INS	STALLED EXPLOSIVE DEVICE RECORD	A1. TYPE AIRCRA	FT A2. BU/SER	A3. ASSEMBLY I	PART NUMBER	A4 .	ASSEMB1	LY S/N	A5. ORG	CODE
				E LIFE ITEMS						
DDIC	B2. NOMENCLATURE/LOCATION	on	B3. PART NUMBER	B4. LOT NUMBER	B5. SERIAL	B6. ORG	B7.MPG DATE	B8.C/0 DATE	B9.INSTL DATE	B10.EXPI
J98	CARTRIDGE ACTUATOR	INIT	841AS375	10ABC0589	515	wcs	05/89	06/90	06/91	06/97
C53	IMPULSE CARTRIDGE		726AS250	10ABC0690	2011	WC5	06/94	12/94	12/94	06/97
ļ										
l										
			İ					1		

Figure 8-8.—Installed Explosive Device Record.

		E b. REMOVE											AZJA0013
	AL NUMBER 1046	11. DATE a. INSTALL											
	3. BUNO OR SERIAL NUMBER 310046	10. SERIAL NO.											
		9. PART NO.											
INVENTORY RECORD	TF34-GE-400	8. NOMENCLATURE											
NTORY		REMOVE											
INVE	2. TYPE / MODEL / SERIES	7. DATE a. INSTALL b.	970605	970605									
		6. SERIAL NO.	123456	654321									
	MENT NAME N ENGINE	5. PART NO.	6017T54P02/ P03	6037T42GG21/ G22/G12									S/N 0107-LF-047-9137
	1. AIRCRAFT MODEL / EQUIPMENT NAME TURBOFAN ENGINE	4. NOMENCLATURE	COMPRESSOR ROTOR	HPT ROTOR									OPNAV 4790/27A (REV. 1-84) S/N 0107-LF-047-9137

Figure 8-9.—Inventory Record.

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FAN ROTOR		ASSEMBLY S	SERVIC	SERVICE RECORD		REFER TO PARTS LIFE TRACKING SYSTEM	ERVAL PARTS LII	FE TRACK	REPLACEMENT DUE	TEM
			SEC	TION I - IDEN	SECTION 1 - IDENTIFICATION DATA	DATA				
A. PART NUMBER 6026T96G10		B. SERIAL NUMBER PWA19563		C. WORK UNIT CODE 2741200	NIT CODE 2741200	D.	D. CFA NADEP JACKSONVILLE	KSONVILLE	E. FSCM 99207	0 7
				SECTION	SECTION II - COMPONENTS	NENTS				
A. NOMENCLATURE	B. P/N	C. S/N		D. COMPON	NENT TIME OR C	D. COMPONENT TIME OR COUNTS (TSN, TSR, METER, LCF)	METER, LCF)		E. MISCELLANEOUS DATA	EOUS DATA
			DATE INST	TYPE LIFE	LIMIT	USED	REMAIN	DATE RMVD		
STAGE 1 DISK	5087T95P01	GATCND20	960109	ELCF	0696	8000	896			
STATE 1 BLADES	5088T29P01	GATCND20	961019	ELCF	12500	8000	12492			
STAGE 2 DISK	5088T01G01	GATCAF63	961019	ELCF	10780	6000	10771			
STAGE 2 BLADES	6093T08P01	GATCRV63	961019	ELCF	10780	6000	10771			
STAGE 3 DISK	5088T02G01	GATCRV47	961019	ELCF	11880	0010	11870			
STAGE 3 BLADES	6093T07P01	GATCRV47	961019	ELCF	11880	0010	11870			
REAR SHAFT	5088T28G01	GEE09790	961019	ELCF	16670	0010	16660			
			SEC	TION III - INS	SECTION III - INSTALLATION DATA	DATA				
A. DATE	B. BUNO/SERNO.	C. BY	D. TOTAI	L AIRCRAFT/EQI	D. TOTAL AIRCRAFT/EQUIPMENT HOURS/COUNTS	3/COUNTS	E.	ASSEMBLY O	OR COUNTS	
	INSTALLED ON	(Activity)	ЕҒН	EOT	N2F	N2P	ЕҒН	EOT	N2F	N2P
970129	755003	WC3	E0394	E0520	E0225	E1600	C2071	C2587	C1634	C11968
OPNAV 4790/106A (REV. 10-92)	1-92)			S/N 0107-1	S/N 0107-LF-014-9800				PERMANE	PERMANENT RECORD
		Þ	10 S C 10	A 2222-1-1- C	ŕ	(J. 1)				LTONUPTU

Figure 8-10.—Assembly Service Record (ASR) (front).

designated to use the ASR. The ASR (fig. 8-10) is used in the AESR to provide data tracking on assemblies and subassemblies that have rework or overhaul life limits and are designated to be removed at organizational, intermediate-, or depot-level maintenance activities and discarded. The same procedures used to maintain or adjust the ASR in the aircraft logbook should be used to maintain or adjust the ASR in the AESR.

Equipment History Record (EHR) Card (OPNAV 4790/113)

The EHR card (fig. 8-11) provides a method for monitoring specific maintenance data on designated aeronautical components and equipment that do not qualify as SRC. An individual card for each EHR-serialized item is maintained as part of the AESR while the component is installed. When the component is removed from the equipment, the EHR card is attached to and accompanies the component to its final disposition. The EHR card is maintained in the AESR in the same way as the card is maintained in the aircraft logbook.

Scheduled Removal Component (SRC) Card (OPNAV 4790/28A)

Maintenance history, installation, and usage data is recorded on the SRC card, (fig. 8-12). The SRC card is maintained as part of the AESR as long as the component is installed. When the component is removed from the equipment, the card accompanies the component. It is very important that maintenance history continuity be maintained. The same procedures used to maintain or adjust the SRC card in the aircraft logbook should be used to maintain or adjust the SRC card in the AESR.

Module Service Record (MSR) (OPNAV 4790/135)

Modular engine design allows I-level maintenance activities to remove and replace interchangeable modules with ready-for-issue (RFI) spares. The removed modules are either repaired at an IMA or forwarded to depot maintenance for overhaul. This capability requires a record system to keep track of modules, the life limits of the assemblies and components within modules, and other maintenance data associated with modules. The MSR (fig. 8-13) provides this capability for all modular engines; for example, T56, T400, T700, and F404.

The activity that accepts a module forwards a copy of the MSR to the Navy Aviation Maintenance Office (NAMO) central repository. MSR initiation for modules installed on aeronautical engines as part of a DOD contract is the responsibility of the activity that accepts the engines for the Navy. When these modules are delivered to the Navy at the contractor's plant, the cognizant Navy representative is considered to be the original accepting activity.

The MSR accompanies the module at all times. When the module is installed as a part of a propulsion system, the MSR is maintained concurrently with, and becomes a part of, the propulsion system AESR. When equipment that has a MSR is not installed, a two-prong fastener should be used to bind the MSR together. Staples should NOT be used.

Upon completion of repair or rework, a copy of the MSR that reflects the current status of the module is forwarded to the central repository. The MSR must be inserted in the appropriate propulsion system AESR or be securely attached to the module when the module is returned to the supply system.

When an MSR becomes damaged or mutilated, the activity that has current custody initiates a new record. All information is transcribed to the new record except for entries in the replacement blocks, which are made in pencil. Entries in the record are typed or plainly printed in black ink. When a record contains no space for additional entries, a new record is prepared, and both records accompany the module until the records are consolidated at repair or rework. Only I- or D-level maintenance activities are authorized to consolidate MSRs.

In the top left comer of the first page of each MSR, the type of MSR is indicated; for example, fan, turbine, or afterburner.

In the Replacement block (top right comer of the first page of the MSR), the noun name of the component or assembly within the module that has a life cycle limit is entered. Since the component or assembly within the module has a life cycle limit, the entire module must be removed from the propulsion system when the limit is reached. The Due block is computed by adding the component or assembly interval time to the module time and subtracting any hours or counts on the component or assembly at installation. These entries are made in pencil since these hours or counts are subject to change.

Figure 8-11.—Equipment History Record (EHR) card (front).

OPNAV 4790/113 (REV. 1 - 84) S/N 0107 - LF - 047 - 9576

PERMANENT RECORD
AZJA0016

Figure 8-12.—Scheduled Removal Component (SRC) card (front).

		MODUL	ULE SERVICE RECORD	VICE	REC	ORD	COMP	COMPONENT/ASSEMBLY	REPLACEMENT MBLY	EMENT	DUE	
				SECTION I - IDENTIFICATION DATA	TIFICATIC)N DATA						
A. PART NUMBER		B. SERIAL NUMBER	ER	C. TYPE	C. TYPE / MODEL / SERIES	RIES	D.	D. WORK UNIT CODE	CODE	E. CFA)FA	
			SECTIC	SECTION II - MODULE COMPOSITION	OULE COM	POSITION						
A. NOMENCLATURE	B. P/N	C. S/N	D.	D. DATE	E.	E. NOMENCLATURE	RE	F. P/N	G. S/N		H. DATE	
			INSTALL	REMOVE	VE					INS	INSTALL	REMOVE
			SECTI	SECTION III - INSTALLATION DATA	TALLATIC	N DATA	0					
A. DATE	B. SERIAL NO. INSTALLED ON	C. BY (Activity)	D. TOTA	L PROPULSIO	N SYSTEM H	D. TOTAL PROPULSION SYSTEM HOURS OR COUNTS	SLN	E. T	E. TOTAL MODULE HOURS OR COUNTS	E HOURS	OR COUNT	S
			1	Ì		1				1		
OPNAV 4790/135 (REV. 8-90) Page 1 of 4 Pages	e 1 of 4 Pages			S/N 0107-1	S/N 0107-LF-010-5900					PERM	ANENT	PERMANENT RECORD AZf0813a
							;					ALIVOLUS

Figure 8-13.—Module Service Record (MSR) (Page 1 of 4).

Figure 8-13.—Module Service Record (MSR) (Page 2 of 4). OPNAV 4790/135 (REV. 8-90) Page 2 of 4 Pages

AZf0813b

8-19

		SECTION VI - IDENTIFICATION DATA			
A. PART NUMBER		B. SERIAL NUMBER		C. TYPE / MODEL / SERIES	
		SECTION VII - REPAIR / REWORK	EWORK		
A. DATE	B. ACTIVITY	C. DESCRIPTION			D. SIGNATURE
		SECTION VIII - INSPECTION RECORD	ON RECORD		
A. TYPE AND DESCRIPTION OF INSPECTION	TON OF INSPECTION	B. REFERENCE	C. DATE COMPLETED	D. ACTIVITY	E. SIGNATURE
OPNAV 4790/135 (REV 8-90) Page 3 of 4 Pages	() Page 3 of 4 Pages				AZf0813c
(AV 4/70/135 (AAV 4/70/14)	U) Fage 3 UI + 1 ages				

Figure 8-13.—Module Service Record (MSR) (Page 3 of 4).

			AGOTSIH / SHOGH I MASCELI ANGEDAS	
A. DATE			B. REMARKS	
			SECTION Y - EXCEPTIANCE	
A EVCEEDA	a5N.	D I EVET	C DEMANDES	D SICNATIBE
A. EACEEDANCE	HINCE	D. LEVEL	C. KEMAKKS	D. SIGNATORE
	\dagger			
OPNAV 4790/135 (REV. 8-90) Page 4 of 4 Pages	00) Page 4 of 4 Pages		* U.S. GOVER	* U. S. GOVERNMENT PRINTING OFFICE: 1991 - 504 - 835
			Discussion of the Late General December (NGD) (December 1941)	ALIUOLOU

Figure 8-13.—Module Service Record (MSR) (Page 4 of 4).

For detailed descriptions and instructions for each section of the MSR, you should refer to OPNAVINST 4790.2.

- Q14. When a Module Service Record (MSR) component is installed as part of a propulsion system, the MSR becomes part of what record?
- Q15. Pencil entries are required in what section of the MSR?
- Q16. When an MSR card contains no space for additional entries, a new card is initiated. What should be the disposition of each MSR card?

ENGINE COMPOSITION TRACKING (ECOMTRAK)

LEARNING OBJECTIVE: Describe the Engine Composition Tracking (ECOMTRAK) system.

This system tracks the operating time cycle or counts of selected engine components. A similar system is used to track selected aircraft components, which is called "Aircraft Composition Tracking" (ACOMTRAK). These two systems can be easily confused by the AZ; therefore, you must remember that ECOMTRAK deals primarily with life-limited **engine** components.

The ECOMTRAK system supplies reports that specify the time or cycle counts that remain on each tracked component before the component must be inspected or removed and replaced. By using usage rates derived from experiments and tests, workloads for maintenance and rework facilities can be forecast. In addition, long-range requirements for new and reworked components can be developed. The cognizant field activity (CFA) or, in some cases, the assistant program manager for logistics (APML) for each engine in the system maintains the ECOMTRAK data base. Each CFA can presently provide management information on TF30, J60, J85, T700, TF34, J52, TF41, F402, F404, T64, T76, T58, T56, T400 and F110 engines. Designated fleet units and others may also obtain such data directly. For further information on this direct data access capability, contact NAMO.

The AZ who works on an Enhanced Comprehensive Asset Management System (ECAMS) performs the following tasks:

 Verifies and corrects ECAMS, ECOMTRAK system, and Parts Life Tracking System (PLTS) reports daily

- Validates configuration reports between ECAMS database, AESR, MSR, and ECOMTRAK, or PLTS prior to deployment, after deployment, and quarterly
- Screens all maintenance action forms (MAFs) and naval flight records (NAVFLIRs) daily to ensure engine transactions and component removal and installation have been updated in the ECAMS database
- Ensures TDs that require part number changes are entered into ECAMS

Refer to Commander, Naval Air Systems Command (COMNAVAIRSYSCOM), aircraft controlling custodian/type commander (ACC/TYCOM), and wing directives for additional responsibilities.

Q17. What system tracks operating time, cycles, or counts of selected engine components?

SUMMARY

The Aeronautical Equipment Service Record (AESR) is the log that keeps track of aeronautical equipment that is an integral part of the aircraft. The AESR contains many of the same forms and records that are used in the aircraft logbook. The activity that originally accepts the equipment is the activity that initiates the AESR. You should enter full identification data and the equipment serial number on each page of every form in the AESR. When there is no designated place in the AESR for data, you should place the data in a manila folder that is attached to the back inside cover of the AESR for this purpose.

You should record the monthly compilation. of significant operating data in the Equipment Operating Record. You should also make an entry in Equipment Operating Record upon transfer of the equipment. Overtemp, hot start, acceptance, and transfer inspections are examples of conditional inspections that you should log on the Conditional Inspection page of an AESR. You should maintain 2 years of data on the Conditional Inspection page. You shouldn't record acceptance and transfer inspections of uninstalled equipment in the AESR for equipment.

When you send equipment to be repaired that is separated from a major component, such as an engine, a propeller, or an auxiliary power unit to an AIMD, the AESR should accompany the component. You should record technical directives that affect an EHR, ASR,

MSR, or SRC card item on the applicable EHR, ASR, MSR, or SRC card and make an entry on the TD page in the applicable AESR.

You should use the Miscellaneous/History record in the AESR to log entries concerning the Naval Oil Analysis Program (NOAP).

When your activity initiates a preservation action on an aircraft, you should make an entry in the Preservation/Depreservation Record of the Aircraft logbook. When no preservation was performed on installed engines, no entry is made for the engines on the Preservation/Depreservation Record in the AESR.

When a Module Service Record (MSR) component is installed as part of a propulsion system, the MSR becomes part of the propuslion system AESR. You are required to make entries in pencil in the Replacement Due section of the MSR. When an MSR card contains no space for additional entries, you should start a new card. Both the old MSR card and the new card should accompany the equipment until the cards are consolidated at repair or rework.

The Engine Composition Tracking (EMCOMTRAK) system tracks life-limited engine components by keeping a record of operating time, cycles, or counts for selected engine components.

ANSWERS TO REVIEW QUESTIONS

- A1. Aeronautical Equipment Service Record (AESR).
- A2. The activity that originally accepts the equipment.
- A3. Full identification data and the equipment serial number.
- A4. In a manila folder attached to the back inside cover of the AESR.
- A5. Monthly compilation of significant operating data.
- A6. Upon transfer of the equipment.
- A7. (a) Conditional inspections; (b) Conditional Inspection page.
- A8. Uninstalled equipment.
- A9. 2 years of data.
- A10. The AESR should accompany the APU to AIMD.
- A11. On the TD page in the applicable AESR.
- A12. Miscellaneous/History record.
- A13. No entry should be made for the engines.
- A14. The propulsion system AESR.
- A15. In the Replacement Due section.
- A16. Both cards should accompany the equipment until the cards are consolidated at repair or rework.
- A17. Engine Composition Tracking (ECOMTRAK) system.